

Introduction

This fact sheet is one in a new series of fact sheets that will be issued periodically throughout the environmental investigation of the Del Amo and Montrose Superfund sites. Future fact sheets will provide updated information on site conditions and proposed cleanup alternatives. In addition, upcoming fact sheets will announce public meetings and opportunities for public involvement.

*The purposes of this fact sheet are to present an overview of the environmental investigations at the Del Amo Superfund site and the former Montrose Chemical Corporation site and review the Superfund process. This fact sheet will also explain where these sites are in the Superfund process and what the planned activities are at each of the sites. An overview of the Superfund process is shown in Figure 2 on page 3. To assist the residential and business communities near the sites to better understand how the ongoing and planned activities affect them, this fact sheet provides information on how you can get involved and stay informed as the Superfund process moves ahead. Words appearing in **bold italic type** are defined in the glossary near the end of this fact sheet.*

Site Background

The Del Amo site and Montrose Chemical Corporation site, which are located in western Los Angeles County between the cities of Torrance and Carson, are shown in Figure 1.

Del Amo Superfund Site

The Del Amo Superfund site covers an area of about 280 acres where a synthetic rubber manufacturing plant once operated. This synthetic rubber plant was constructed in 1942 by the U.S. Government for use during World War II. The plant was operated for the government by private companies from 1942 to 1955 and then sold to Shell Oil Company in 1955, which operated the facility until 1972. The plant was sold in 1972 and dismantled. An industrial park has since been built on most of the area where the synthetic rubber plant was located.

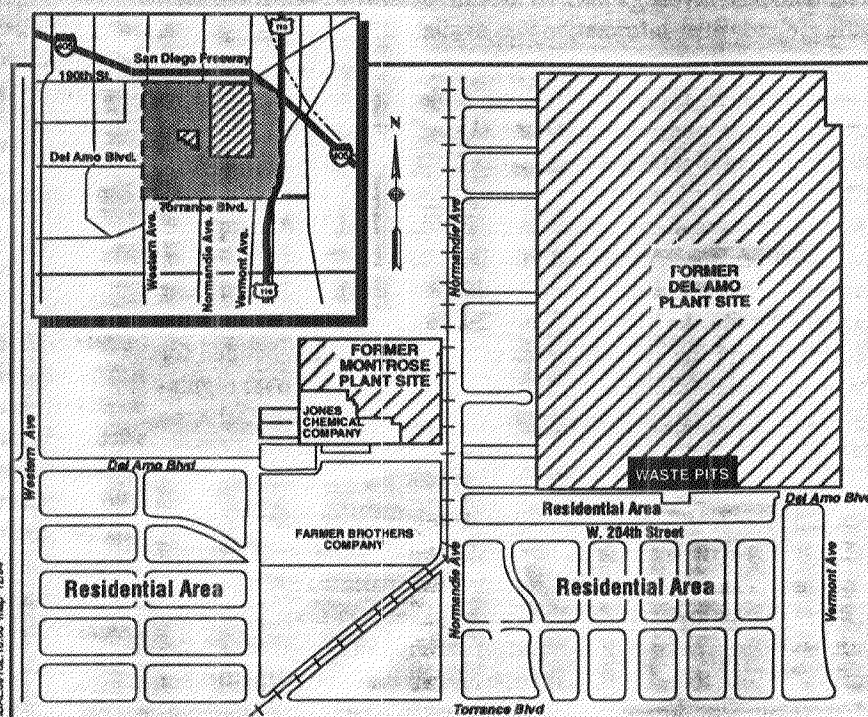


Figure 1: Vicinity and Site Location Map

The Del Amo pit area, also referred to as the waste pits, comprises 3.7 acres used for disposal of certain wastes generated at the synthetic rubber plant. The waste pits were covered with clean fill material in the late 1960s and early 1970s. The thickness of the fill material ranges from one foot to eight feet. Waste and contaminated soil in the disposal area contain high concentrations of chemicals known as polynuclear aromatic hydrocarbons and volatile organic compounds. These chemicals are byproducts of the synthetic rubber manufacturing process. Many of the compounds are known or suspected cancer-causing chemicals (carcinogens). The disposal areas consist of three evaporation ponds and six disposal pits. One of the evaporation ponds was excavated by the landowner in 1982. The California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) approved the final cleanup of that portion of the site.

In 1984, the U.S. Environmental Protection Agency (EPA) evaluated the Del Amo site for possible inclusion on the *National Priorities List (NPL)* due to the potential for contamination from the waste pits to reach the groundwater beneath the site. The NPL is a list of the top-priority sites in the country contaminated with hazardous substances and eligible for investigation and cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the *Superfund* program. To add a site to the NPL, the site is scored using the *Hazard Ranking System (HRS)*. This scoring system is used to evaluate potential relative risks to public health and the environment from releases or threat-

ened releases of hazardous substances. EPA and states use the HRS to calculate a site score (0 to 100) based on the actual or potential release of hazardous substances from a site through air, surface water, groundwater, soil, and sediment. A score of 28.5 or higher qualifies a site for listing on the NPL. It was determined that the Del Amo site was not eligible for the NPL due to its HRS score of 8.71, and the state (DTSC) retained the lead role for the site and continued its environmental investigations. At the time of EPA's evaluation, very little groundwater information was available.

In 1989, an EPA site-screening project of South Central Los Angeles was conducted to evaluate 31 sites, including the Del Amo site, for potential addition to the NPL. Data from this study showed a broader area of contamination surrounding the Del Amo and Montrose sites than had been previously identified. EPA completed an expanded *Site Inspection* of the Del Amo site that indicated an increased likelihood of site contamination reaching groundwater beneath the site. As a result, on July 29, 1991, the Del Amo site was rescored using the HRS and was subsequently recommended for addition to the NPL. Shortly thereafter, DTSC turned over regulatory responsibility for the site to EPA. NPL listing of the Del Amo site is still pending.

On May 7, 1992, EPA signed an Administrative Order on Consent (AOC) with the Shell Oil Company and the Dow Chemical Company. An AOC is a legal document between EPA and potentially responsible parties (PRPs) whereby the PRPs agree to investigate and perform or pay the cost of cleanup. The agreement describes actions to be taken at the site and provides opportunities for public comment during the cleanup process. The investigation undertaken by Shell and Dow was an extension of work at the site that was started by DTSC. The EPA-led investigation included the pit site, as well as the plant site. The state investigation focused only on the pit site.

The Phase I investigation involved collection of many samples located within and near the Del Amo Superfund site. This included:

- Collection of 60 surface soil samples to characterize shallow soil contamination in undeveloped portions of the site
- Collection of groundwater samples at more than 100 locations in order to characterize groundwater quality beneath the site
- Collection of more than 600 samples of air from the shallow soil in order to evaluate sources of contamination
- Installation and sampling of more than 70 soil borings in order to characterize the hydrogeology of the area and to evaluate sources of contamination

As a precaution to ensure that chemicals from the nearby Del Amo and Montrose Superfund sites were not present in residential backyard soil adjacent to the site, EPA collected samples from

backyards of homes located on the north side of West 204th Street between New Hampshire Avenue and Normandie Avenue. No chemicals possibly related to the Del Amo Superfund site were found at levels exceeding federal standards at any of the locations sampled. The sampling did, however, find the pesticide DDT (Dichlorodiphenyltrichloroethane) in two yards.

In April 1994, EPA began a *removal action* in the two yards with high levels of DDT by excavating the contaminated soil, replacing the soil with clean fill, planting grass, and fencing the yards. At the community's request, EPA temporarily relocated 30 potentially affected families during the removal action.

Montrose Superfund Site

The Montrose Chemical Corporation manufactured DDT at its 13-acre facility from 1947 to 1982. Aerial photographs of the area indicated that various locations at the facility were used for storing either DDT or waste products from its production.

During a 1982 inspection by EPA, hazardous substances were detected in wastewater leaving the facility through the storm drainage system. Results of the *Preliminary Assessment/Site Inspection (PA/SI)*, which consisted of soil borings taken in and near the vicinity of the Montrose facility, indicated that DDT was present. EPA proposed the site for addition to the NPL in 1984. In 1985, Montrose placed an asphalt cover over the site to reduce the further spread of contaminants until a final cleanup solution was selected.

In 1985, EPA and Montrose Chemical Corporation signed an AOC whereby Montrose agreed to investigate and clean up the site. The Montrose Chemical Corporation completed Phase I of a *Remedial Investigation (RI)*, sampling soils, surface water, and groundwater for DDT and byproducts.

In 1991, Montrose performed the second phase of the RI work, which was designed to sample deep on-site soils and groundwater, and all major surface water drainages leading from the site.

The results of this investigation are as follows:

- There is significant DDT contamination at the 13-acre property where the Montrose facility once operated. The property has been capped since 1985.
- Off-site drainage areas found DDT at 630 parts per million (ppm) in the Los Angeles Department of Water & Power's easement south of the site, and 8,600 ppm in the drainage ditch east of the site. These areas have been capped since 1986.
- There is significant contamination in the groundwater beneath and around the property where the Montrose facility operated. The groundwater is contaminated by a chemical called chlorobenzene. Chlorobenzene was used by Montrose in its DDT manufacturing process. The groundwater is not currently used for drinking water purposes.

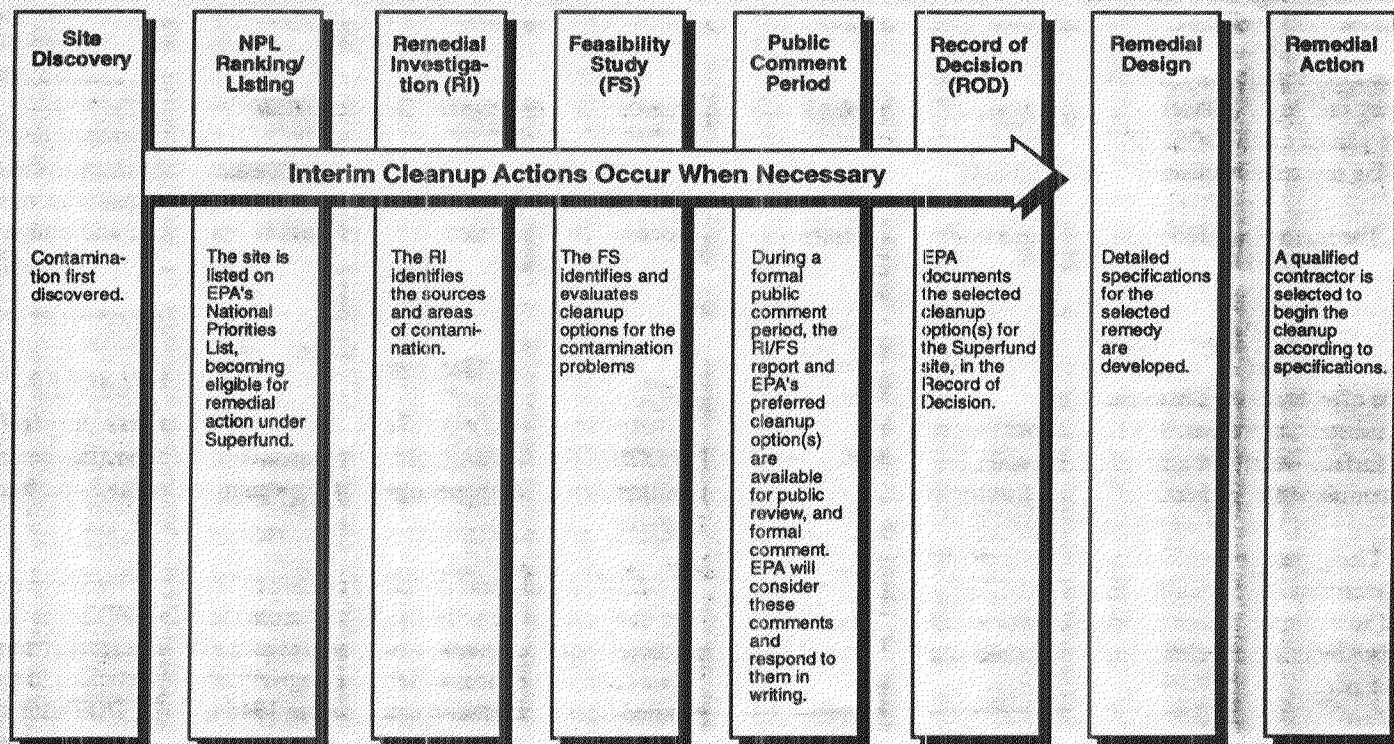
- Some of Montrose's sampling indicated that certain sediments in the stormwater pathway between the former Montrose facility and Los Angeles Harbor may be contaminated with DDT. EPA is now conducting an investigation of the sediments in the stormwater pathway to assess the extent, if any, of threat to the environment or to public health.
- During Montrose's operations in the 1940s, 1950s, and 1960s, significant quantities of chemicals were discharged to the sanitary sewer system. Some of the DDT was caught in sediments in the sewers near the facility. Montrose has now investigated these sediments and a cleanup remedy will be performed this summer to remove the DDT sediments.

Based on evidence that airborne DDT dust from the Montrose site may have been released into the surrounding community, EPA collected attic dust samples at several industrial facilities near the Montrose Chemical plant between 1986 and 1988. EPA also collected soil samples from several residential yards and dust samples from the attics of two homes near the plant. The results of this sampling effort were evaluated by EPA and the *Agency for Toxic Substances and Disease Registration (ATSDR)* to determine the health implications of pesticide-contaminated soil and dust. EPA and ATSDR concluded that although DDT levels in the industrial facilities were elevated, in the residential areas they were quite low.

What is Next in the Near Future?

In addition to the environmental investigations that have been conducted to date, EPA is planning to collect additional soil samples in residential neighborhoods near the Del Amo and the Montrose Superfund sites. These soil samples will be analyzed for DDT. EPA has decided to conduct the more widespread soil sampling efforts in 1995 to further evaluate the potential risks. Other planned activities include:

- As a follow up to the residential indoor air sampling that was conducted in the temporary relocation zone in August 1994, EPA will resample the two homes on West 204th Street where benzene was detected to characterize its source and quantify the definition of risk for the 26 homes where DDT-contaminated dust was detected
- Conduct a second round of ambient air and soil gas sampling of the waste pits
- Complete the feasibility study for the waste pits and develop a proposed plan for remediating the waste pits
- Evaluate the fill area to establish a plan to remediate the area
- Complete the work place indoor air monitoring at the Del Amo site area
- Numerous environmental activities are ongoing at both sites and will be explained in future fact sheets.



Community Relations Activities Occur Throughout the Superfund Process

Figure 2: The Superfund Process

What is Superfund?

Superfund is the commonly used name for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a federal law created in 1980 and reauthorized in 1986 that allows EPA to respond to hazardous waste sites that threaten public health and the environment.

EPA responds to a hazardous waste site by identifying parties potentially responsible for contamination and ordering them to perform cleanup activities. If EPA is unsuccessful in identifying responsible parties, or if these parties are not willing to do the work, EPA may use Superfund money to perform cleanup activities. Superfund money is generated from taxes on petroleum and chemical industries, and an environmental tax placed on corporations.

A key component of the Superfund process is the community relations program. The goals of the community relations program are to inform the community about the environmental cleanup and to provide the community with opportunities to voice concerns. To accomplish these goals, formal and informal community meetings, and public comment periods are held at critical decision points in the process. Public notices about upcoming public comment periods and public meetings are published in local newspapers, and individuals and organizations on the mailing list will receive written notification. Fact sheets are issued periodically about the progress of cleanup activities.

Superfund requires EPA to develop a list of the country's most serious hazardous waste sites that will be cleaned up using federal money and legal authority. This list is the NPL. After a site has been placed on the NPL, EPA must go through a series of steps leading toward site cleanup.

The Superfund process begins with a *Preliminary Assessment/Site Inspection (PA/SI)* of individual areas (within the confines of an overall site) that have been identified as potentially hazardous to the public's health and the environment. This step includes collecting and reviewing all available information and may include off-site surveys to evaluate the source and nature of hazardous substances present. Site Inspections routinely include collecting surface water, groundwater, and soil samples to determine if contamination is present.

Using data collected in the PA/SI, a site is scored for the HRS to determine its eligibility for the NPL. This scoring system is used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous substances.

The next two major steps in the Superfund process are to conduct an in-depth investigation of a site (the *Remedial Investigation (RI)*) and evaluate possible cleanup alternatives (the *Feasibility Study (FS)*). During the RI, information is gathered to deter-

mine the general nature, extent, and sources of contamination at a site. This investigation involves taking numerous soil and groundwater samples. Each sample of soil and water is carefully packaged, placed in ice, and rushed to a laboratory certified by EPA and the state. Each sample is then subjected to a number of different tests to determine if contaminants are present. After the initial laboratory analysis has been completed, the samples are sent to a second EPA-certified analytical laboratory for analysis to verify (validate) the accuracy of the original laboratory work. All sampling and laboratory analysis is performed according to sampling plans approved by the regulatory agencies. The RI field work produces thousands of individual datapoints. These datapoints are stored in a computer database that is used to develop a picture of the site and the extent of contamination. This conceptual picture and the data are then evaluated in the FS.

The FS looks at the possible cleanup alternatives for each site, and evaluates the suitability of these alternatives. EPA evaluates cleanup alternatives by considering the following criteria: overall protection of human health and the environment; compliance with state and federal laws; reduction of the toxicity, mobility, and volume of contaminants through treatment; short-term and long-term effectiveness; how easily the alternative can be applied; cost; community acceptance; and state acceptance. Results of the FS are used to develop a proposed plan that outlines the cleanup alternatives and describes EPA's preferred alternative (e.g., soil removal, groundwater treatment). The proposed plan is made available for public review during a minimum 30-day public comment period. After formal public review, during which the public can give oral and written comments that will be responded to in a document call a Responsiveness Summary, a final cleanup plan is selected and recorded in the *Record of Decision (ROD)*.

Remedial Design (RD) (design of cleanup solutions) and *Remedial Action (RA)* (construction of cleanup solutions) can then proceed. The final step in the process is operations and maintenance, which involves continual testing and monitoring to ensure that the cleanup was successful.

Glossary of Terms

Agency for Toxic Substances and Disease Registry (ATSDR). The federal agency responsible for conducting health assessments at all sites proposed for cleanup under the Superfund program.

DDT. A colorless crystal or a white to slightly off-white powder that is odorless or has a slightly aromatic odor. DDT was designed to control malaria through the elimination of insect carriers. It was one of the most widely used agricultural insecticides in the United States and other countries from 1946 to 1972. DDT usually does not naturally breakdown and remains in the environment for a long time. In 1972, EPA banned the use of DDT due to its effect on reproduction of wild birds. EPA has classified DDT as a probable cancer causing compound (carcinogen) in humans.

Feasibility Study (FS). Investigative and analytical studies performed to identify and screen cleanup alternatives for remedial action. The FS analyzes in detail the effectiveness and cost of the cleanup alternatives at a Superfund site.

Hazard Ranking System (HRS). A scoring system used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous substances. EPA and states use the HRS to calculate a site score (0 to 100) based on the actual or potential release of hazardous substances from a site through air, surface water, or groundwater. This score is the primary factor used to decide if a hazardous waste site should be placed on the National Priorities List.

Information Repository. The location of a file accessible to the public that contains information, technical reports, and reference documents about a Superfund site. The information repository is usually located in a public building that is convenient for local residents, such as a public school, city hall, or library.

National Priorities List (NPL). A list compiled by EPA that identifies uncontrolled hazardous substance releases in the United States that are priorities for long-term remedial evaluation and response.

Preliminary Assessment. The process of collecting and reviewing available information about a known or suspected hazardous waste site or release of hazardous substances. EPA or states use this information to determine if the site requires further study. If further study is needed, a Site Inspection is undertaken.

Record of Decision. A public document that explains which cleanup alternative will be used at a Superfund site. The Record of Decision is based on information and technical analysis gener-

ated during the Remedial Investigation/Feasibility Study and consideration of public comments and community concerns.

Remedial Action. The actual construction or implementation phase of the selected cleanup alternative at a Superfund site.

Remedial Design. The engineering phase where technical drawings and specifications are developed for the construction of the Remedial Action at a Superfund site.

Remedial Investigation (RI). Remedial Investigations are designed to determine the nature and extent of contamination at a Superfund site. The RI and FS are major studies that must be completed before a decision can be made about how to cleanup a Superfund site.

Removal Action. An immediate action taken over the short-term to address a release or threatened release of a hazardous substance.

Site Inspection. A technical phase designed to collect more extensive information on a hazardous waste site. The information is used to score the site using the Hazard Ranking System to determine whether response action is needed.

Superfund. Superfund is the commonly used name for the Comprehensive Environmental Response, Compensation, and Liability Act, a federal law created in 1980 and reauthorized in 1986. This law allows EPA to respond to hazardous waste sites that threaten public health and the environment.

MAILING LIST COUPON

If you don't currently receive fact sheets in the mail about environmental cleanup activities at the Del Amo and Montrose sites and would like to be on the permanent mailing list to receive future information, please complete the coupon below and mail it to Andy Bain (H-1-1), U.S. EPA, Region IX, 75 Hawthorne Street, San Francisco, CA 94105

Name _____

Address _____

Organization/Affiliation _____

Public Participation Opportunities: How You Can Get Involved

Stay Informed. Information repositories are located at the Carson Public Library and the Torrance Civic Center Library to provide you with information related to the Del Amo and Montrose sites. As the investigations and following cleanups continue, related information will be sent to the local repositories for public review. The repositories also contain general information about the Superfund program.

Let Us Know Your Concerns. Public participation is an essential part of the Superfund process. Residents affected by the site are encouraged to participate in upcoming community relations activities. EPA maintains a mailing list of community members interested in receiving notification of meetings. If you are not on the list and would like to be notified of future events, contact Andy Bain at 1-800-231-3075.

For More Information

If you would like more information, or have questions about activities at the Del Amo or Montrose sites, please contact the following people:

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Paula Bruin (E-2)
Media Contact
(415) 744-1587

**United States Environmental Protection Agency
Region IX
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San Francisco, CA 94105**

Information Repositories

Carson Public Library
151 E. Carson St.
Carson, CA
(310) 830-0901

Torrance Civic Center Library
3031 Torrance Blvd.
Torrance, CA
(310) 618-5959

United States Environmental Protection Agency
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